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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 10/035,609      | 12/28/2001  | Kwok Ken Mak         | 112025-0471         | 3790             |

24267 7590 05/05/2004  
CESARI AND MCKENNA, LLP  
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BOSTON, MA 02210

EXAMINER

THAI, TUAN V

| ART UNIT | PAPER NUMBER |
|----------|--------------|
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2186

DATE MAILED: 05/05/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/035,609

Applicant(s)

MAK ET AL.

Examiner

Tuan V. Thai

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 17 March 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-21 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                        | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. _____  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                                    |

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**Part III DETAILED ACTION**

***Response to Amendment***

1. This office action is in response to Applicant's communication filed March 17, 2004. This amendment has been entered and carefully considered. Claims 1-21 remain pending in the application. Claim 21 is newly added.

2. Applicant's arguments with respect to claims 1-20 have been fully considered but they are not deemed to be persuasive.

***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. § 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

- (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1-19 are rejected under 35 U.S.C. § 102(b) as being anticipated by Nguyen et al. (USPN: 5,961,628); hereinafter Nguyen.

As per claim 1; Nguyen discloses the invention as claimed including a method and apparatus for processing a first memory

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request issued by a requestor and direct to a local memory, the first memory request containing an address corresponding to the memory location (e.g. see column 1, line 62 bridging column 2, line 5), the method and apparatus comprising associating the first memory request with a request identifier, and selecting a memory device containing the memory location corresponding to the address (e.g. see column 2, line 66 bridging column 3, line 4 et seq.); issuing the second memory request without the request identifier to the memory device, receiving the information from the memory device and associating the information with the request identifier (e.g. see column 3, lines 6 et seq.).

As per claim 2, wherein the first memory request contain the request identifier (e.g. see column 3, lines 2 et seq.);

As per claim 3, Nguyen discloses generating the request identifier (e.g. see column 3, lines 2 et seq.);

As per claim 4, the further limitation of determining if the memory is available to issue a second memory request is embedded in Nguyen's system and being taught to the extent that it is being claimed; for example, after receiving the first memory request associated with request identification, the load/store unit must determine the availability of the memory before receiving additional memory request, specifically, Nguyen discloses that if the memory (ID queue) is 75% full, the load/store unit stops making requests to cache control unit (e.g.

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see column 3, lines 6 et seq.; column 14, lines 15 et seq.);

As per claim 5, Nguyen discloses saving/storing the address value and the request identifier (e.g. see column 3, lines 5 et seq.);

As per claim 6, Nguyen discloses the requester is a load/store unit of vector processor 120 (e.g. see figures 1 and 2, column 6, lines 16 et seq.);

As per claims 7-10 and 13, they encompass the same scope of invention as to that of claims 1-2, 4-6 respectively; the claims are therefore rejected for the same reasons as being set forth above;

As per claim 11, Nguyen discloses saving/storing the request identifier (e.g. see column 3, lines 5 et seq.);

As per claim 12, Nguyen discloses the first memory request contains a port of origin or being issued from the load/store unit of vector processor 120 (e.g. see figures 1 and 2; column 3, lines 2 et seq.; column 6, lines 16 et seq.);

As per claims 14, 17 and 21, see arguments with respect to claims 1-6; in addition, it should be noted that (a) the requestor for issuing the first memory request is taught as the load/store unit of vector processor 120 (e.g. see figures 1 and 2; column 3, lines 2 et seq.; column 6, lines 16 et seq.); the system controller is taught by Nguyen as a request control circuit (e.g. see figures 1 and 2, column 16, lines 11 et seq.);

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one or more memory devices coupled to the system controller (or the request control circuit) for receiving one or more second memory requests and return information in response to the second memory request is taught as instruction cache 132, data cache 134, ROM cache 136 (e.g. see figure 1);

As per claims 15 and 18, a table having multiple entries with a request identifier field and an address field (e.g. see figure 4, column 3, lines 5 et seq. and lines 45-46);

As per claims 16 and 19, Nguyen discloses the requester is a load/store unit of vector processor 120 (e.g. see figures 1 and 2, column 6, lines 16 et seq.);

### ***Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claim 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nguyen et al. (USPN: 5,961,628); hereinafter Nguyen.

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As per claim 20; Nguyen discloses the invention as claimed, detailed above with respect to claims 1, 7, 14 and 17; Nguyen however does not particularly disclose a computer-readable medium comprising computer executable instructions for performing method recited in claims 1, 3, 4 or 5. However, one of ordinary skill in the art would have recognized that computer readable medium (i.e., floppy, cd-rom, etc.) carrying computer-executable instructions for implementing a method, because it would facilitate the transporting and installing of the method on other systems, is generally well-known in the art. For example, a copy of the Microsoft Windows operating system can be found on a cd-rom from which Windows can be installed onto other systems, which is a lot easier than running a long cable or hand typing the software onto another system. The examiner takes Official Notice of this teaching. Therefore, it would have been obvious to put Nguyen's program on a computer readable medium, because it would facilitate the transporting, installing and implementing of Nguyen's program on other systems.

7. As per remark, Applicant's counsel asserts that "Nguyen has no disclosure of issuing a second memory request without the request identifier to the memory device to access information stored at the location; receiving the information from the memory device; and associating the information with the request

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identifier, that is, Applicant issues a second memory request without the request identifier to the memory device to access information stored at the location (pages 8 and 9 of the amendment).

Examiner would like to emphasize that Nguyen starting at column 3, lines 6 et seq. clearly discloses issuing a second memory request without the request identifier to the memory device to access information stored at the location as being equivalent to *the second requesting device issue a second vector request without the request identifier at this particularly step;* and receiving the information from the memory device (e.g. see column 3, lines 6-7; and associating the information with the request identifier is being equivalent to the seventh step of providing a transaction ID tag indicating the second transaction ID tag by the load/store unit by the memory system (e.g. see column 6, lines 14-15).

8. Applicant's arguments filed March 17, 2004 have been fully considered but they are not deemed to be persuasive.

9. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 C.F.R. § 1.136(a).



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A SHORTENED STATUTORY PERIOD FOR RESPONSE TO THIS FINAL ACTION IS SET TO EXPIRE THREE MONTHS FROM THE DATE OF THIS ACTION. IN THE EVENT A FIRST RESPONSE IS FILED WITHIN TWO MONTHS OF THE MAILING DATE OF THIS FINAL ACTION AND THE ADVISORY ACTION IS NOT MAILED UNTIL AFTER THE END OF THE THREE-MONTH SHORTENED STATUTORY PERIOD, THEN THE SHORTENED STATUTORY PERIOD WILL EXPIRE ON THE DATE THE ADVISORY ACTION IS MAILED, AND ANY EXTENSION FEE PURSUANT TO 37 C.F.R. § 1.136(a) WILL BE CALCULATED FROM THE MAILING DATE OF THE ADVISORY ACTION. IN NO EVENT WILL THE STATUTORY PERIOD FOR RESPONSE EXPIRE LATER THAN SIX MONTHS FROM THE DATE OF THIS FINAL ACTION.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tuan V. Thai whose telephone number is (703) 305-3842. The examiner can normally be reached on from 6:30 A.M. to 4:00 P.M..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mathew M. Kim can be reached on (703)-305-3821. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be

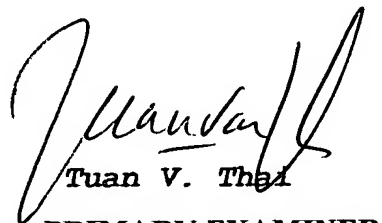
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obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

TVT/April 30, 2004

A handwritten signature in black ink, appearing to read 'Tuan V. Thai', is written over a printed name.

Tuan V. Thai

**PRIMARY EXAMINER**

**Group 2100**